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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/812,400  
Filing Date: March 19, 2001  
Appellant(s): LUDWIG, LESTER F.

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Jeffrey Lotspeich  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 1/14/2008 appealing from the Office action mailed 8/25/2006.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The following are the related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

10/702,262

10/703,023

10/737,042

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

<b>5,981,859</b>	<b>Suzuki</b>	<b>11-1999</b>
<b>5,357,048</b>	<b>Sgroi</b>	<b>10-1994</b>
<b>4,365,533</b>	<b>Clark, Jr. et al.</b>	<b>12-1982</b>
<b>5,095,799</b>	<b>Wallace et al.</b>	<b>3-1992</b>
<b>5,744,742</b>	<b>Lindemann et al.</b>	<b>4-1998</b>

### **(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21 (2) of such treaty in the English language.

2. Claims 30-40 are rejected under 35 U.S.C. 102(e) as being anticipated by Suzuki (5,981,859).

Suzuki (claim 30) discloses a control signal processing system (fig. 2) for responsively generating Midi control signals, said system comprising: an incoming control signal interface (11/56) adapted to receive an incoming MIDI control signal; a controllable low frequency oscillator (17) comprising at least one parameter (12/13), said at least one parameter comprising a value selectable from a plurality of values, wherein said value of said at least one parameter is determined by said incoming MIDI control signal (13), and wherein said controllable low frequency oscillator is adapted to generate an outgoing MIDI control signal responsive to said value of said at least one parameter; and an outgoing control signal interface (figure 2) adapted to communicate said outgoing MIDI control signal.

Suzuki (claim 31) discloses the system, wherein frequency of said controllable low frequency oscillator is controlled by said value of said at least one parameter (column 3, lines 49-64).

Suzuki (claim 32) discloses the system, wherein a waveform of said controllable Low frequency oscillator is controlled by said value of said at least one parameter (col. 4, lines 4-9).

Suzuki (claim 33) discloses the system, further comprising: a plurality of controllable Low frequency oscillators, each composing at Least one parameter, wherein said at least one parameter, for each of said plurality of controllable low frequency oscillators, comprises a value selectable from a plurality of values, wherein

said value of said at Least one parameter is determined by said incoming MDI control signal, and wherein each of said plurality of controllable Low frequency oscillators is adapted to generate a separate outgoing MIDI control signal responsive to said at Least one parameter (Figure 9., and col. 9, lines 1-5).

Suzuki (claim 34-39) discloses the system, wherein one of said plurality of controllable Low frequency oscillators is a master Low frequency oscillator', wherein at least one of said plurality of controllable Low frequency oscillators is a slave Low frequency oscillator producing an oscillation that is driven by said master low frequency oscillator; wherein said slave Low frequency oscillator produces an oscillation that is phase shifted; wherein said slave low frequency oscillator produces a waveform that is different from a waveform that is produced by said master Low frequency oscillator; wherein phase of said slave low frequency oscillator is controlled by said value of said at Least one parameter; wherein frequency of said master Low frequency oscillator is controlled by said value of said at Least one parameter (Figure 9., and column 8, line 40 through column 9, lines 54).

Suzuki (claim 40) discloses a control signal processing system for responsively generating MIDI control signals, said system comprising: an incoming control signal interface adapted to receive an incoming MIDI control signal; a controllable envelope generator (18) comprising at Least one parameter, said at Least one parameter comprising a value selectable from a plurality of values, wherein said value of said at least one parameter is determined by said incoming MIDI control signal, and wherein said controllable envelope generator is adapted to generate an outgoing MDI control

signal responsive to said value of said at Least one parameter; and an outgoing control signal interface adapted to communicate said outgoing MIDI control signal.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in view of Lindemann et al. (5,744,742).

Suzuki is discussed above. Suzuki does not disclose a ramp generator.

However, Lindemann et al. disclose the system, wherein said controllable envelope generator is a ramp generator (fig. 3, column 18, Lines 27-31; and column 23, lines 35-44).

It would have been obvious to one of ordinary skill in the art at the time of the invention, to utilize the teachings of Lindemann et al., because the enhancement provides the ability to ramp the envelope signal, thereby varying the sound.

5. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in view of Clark Jr., et al. (4,365,533) and Wallace et al. (5,095,799).

Suzuki does not disclose a transient generator or slew limiter.

However, Clark Jr., et al. disclose a controllable envelope generator, which is a transient generator (469) as seen in figure 22 and 26.

Wallace et al. disclose the use of a controllable envelope generator which is a slew limiter (column 16, lines 7-17), wherein the envelope is varied to create a pleasing or desired sound.

It would have been obvious to one of ordinary skill in the art at the time of the invention, to utilize the teachings of Clark Jr., et al. and Wallace et al. with the teachings of Suzuki, because the enhancement provides the ability to vary the envelope signal, to thereby create a desired sound signal.

6. Claims 43-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in view of Sgroi (5,357,048).

Suzuki discloses a method for processing control signals to generate a non-merging mathematical function of values of said control signals, said method comprising: obtaining a first control signal value from a first incoming real-time control signal and a second control signal value from a second incoming MIDI control signal (figures 2, 9, and 11-13); numerically multiplying (fast adding) said first control value and said second control value to produce a multiplied value (column 11, lines 39 through column 12, line 9); and generating an outgoing MIDI control signal based upon said multiplied (added) value (column 12, lines 10-14) wherein prior to said generating, said method further comprises: adding an offset, wherein said offset is determined by a



third incoming control signal (figure 9); and generating an outgoing MDI control signal based upon said summed value.

Suzuki provides accumulation or summing rather than multiplying the multiple tones. Suzuki also fails to disclose velocity and note number values.

However, Sgroi discloses a method for processing control signals to generate a non-merging mathematical function of values of said control signals, said method comprising: obtaining a first control signal value from a first incoming real-time control signal (figures 1, 3, and 4); obtaining a second control signal value from a second incoming MIDI control signal; numerically multiplying said first control value and said second control value to produce a multiplied value; and generating an outgoing MIDI control signal based upon said multiplied value (figures 1 and 3); wherein prior to said generating, said method further comprises: adding an offset to said multiplied value (figure 3); wherein said offset is determined by a third incoming control signal; and generating an outgoing MDI control signal based upon said summed value (figures 3 and 4).

Sgroi discloses identifying a temporal sequence of said first and second events of said first and second incoming control signals (figures 1, 3, and 4).

Sgroi further discloses obtaining velocity and note number values as discussed in column 5, line 59 through column 6, line 15.

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the teachings of Sgroi with the teachings of Suzuki, because the combination provide more control of the generated sound.

### **(10) Response to Argument**

A. Appellant argues that the present application has been pending for seven years. This is not appealable subject matter. This argument is moot.

The Appellant argues the use of the Sgroi reference. Clearly the Sgroi reference is related to MIDI. Sgroi is used to show the obviousness of some of the dependent claims. There is no reason that the reference can not be used. Clearly the date precedes the Appellant's filing and the reference contains pertinent subject matter.

Appellant argues that points were not addressed during the prosecution. The examiner disagrees and has given the applicant several interviews, as seen throughout the prosecution history, to address any concerns with the office actions. All interviews were extensive. Every concern was addressed.

A1. The appellant argues that Suzuki does not teach MIDI. Further, the Appellant argues that event generator (11) does not generate a MIDI control signal and has absolutely nothing to do with a MIDI signal. However, the examiner disagrees with the appellant's comment. As pointed out in the arguments by the Appellant, Suzuki discloses a performance event generator being for example, a performance operator (keyboard or the like) and/or an automatic performance apparatus (sequencer or the like). A performance event is for example, key-on/off event which is supplied to the unit controller (13), (column 3, lines 36-41). First, a keyboard which has a performance event generator is clearly an electronic keyboard. Inherently an electronic keyboard will have an MIDI interface. Regardless, of this mentioning in the reference, the

background of the invention clearly places the teachings of the apparatus in the realm of MIDI. As discussed in column 1, lines 35-45, Suzuki relates to multi-connectivity of multiple components, wherein the background discloses conventional techniques, wherein a plurality of tone generators of different types (this could be keyboards, sequencers, etc.), are interconnected via musical instrument digital interface (MIDI) to configure an integrated tone generator system mixed with a plurality of tone generators. This clearly places the apparatus of Suzuki in the realm of MIDI. Further, Suzuki discloses an apparatus that provides a MIDI interface (56) for such incoming/outgoing MIDI signals (column 7, lines 23-25). The purpose of the MIDI interface (56) is to allow other instruments to communicate with the apparatus. Further, it would be hard to find an electronic keyboard that did not have a MIDI interface for this purpose. Appellant argues that Suzuki does not disclose that the key-on/off event being MIDI. However, as discussed above, the communication of the event generator (11) or (keyboard) would be through a MIDI interface. Anyone skilled in the art would know that MIDI allows key-on/off signals to be generated between instruments. However, relying on the background of Suzuki and the MIDI interface (56) of Suzuki, clearly, there are teachings for the transmission of MIDI signals. Appellant has been given more than fair opportunity to comprehend the examiner's view of the Suzuki. With numerous discussions of the references, appellant has attempted to persuade the examiner that his position is right and that the examiner is wrong. However, it is the examiner's position that the references clearly meet the limitations of the broadly written claims.

A2. The appellant argues that there is no signal flow from unit controller (13) to generator (12). The examiner never states that there is signal flow from unit (13) to generator (12). The appellant brings attention to figure 2, regarding the teaching of at least one parameter determined by the incoming MIDI signal. The applicant argues that the “at least one parameter” cannot be determined by the incoming MIDI control signal. The appellant has made his own interpretation of the office action regarding this subject matter. However, the office action clearly states that the incoming MIDI signal at unit (13) comprises at least one parameter. Tone color information generator (12) clearly provides the teaching of at least one parameter as pointed out. It was also pointed out that the tone color information generator (12) operates in conjunction with performance event generator (11). Suzuki discloses that control unit (13) generates a control parameter in accordance with a performance event generator and tone color information, and supplies it to one of a plurality of common control units (14) which comprises the LFO (column 4, lines 49-52). It was also pointed out in one of several interviews, that both elements (11 and 12) provide incoming MIDI signals to unit (13). Appellant acknowledges this discussion on page 15 of the brief. Therefore, applicant has been clearly informed on how the examiner views Suzuki in reference to the claims. Further, it can also be seen that the performance event generator, provides at least one parameter, wherein the parameter can be anything (the term parameter is broad). Key-on and Key-off are parameters of the incoming MIDI signals, in which the outgoing MIDI signals are responsive. However, to clearly put things in perspective for the appellant, the term “parameter” was pointed out in the Suzuki reference, which relates to the tone

color information. Both elements (10 and 11) provide incoming MIDI signals that contain parameters, in which the outgoing MIDI signals are responsive. The examiner has tried to make the complex reference as simple to understand as possible for the appellant.

A3. Applicant argues that Suzuki's LFO (17) does not generate MIDI signals. However, again it has been pointed out that the apparatus of Suzuki is in the realm of transmitting MIDI signals. Looking at figure 2, clearly MIDI signals are input into the LFO from unit controller (13). The output from the LFO is a MIDI signal as well. Also referring to element (56), the apparatus contains a MIDI interface for input/output of MIDI signals. There is nothing new about this feature and it is well known in the art.

A4. The appellant argues that the position of the USPTO is contradictory. However, the examiner believes that the appellant does not fully understand the references. Therefore, this application is being appealed. There is nothing new about inputting and outputting MIDI signals, wherein the output MIDI signal is responsive to a parameter. The LFO merely outputs the MIDI signal based on a parameter. The references clearly meet these broad limitations.

B1. The appellant argues unjustified delay. This is not an appealable issue. Therefore, this argument is moot. The appellant argues that Sgroi does not disclose a MIDI input. Clearly figure 2 shows a MIDI input. Appellant argues that Sgroi does not disclose a plurality of MIDI inputs. However, examiner points to figures 2-4. Further, Suzuki provides plural MIDI inputs. Fay is not used in the final rejection. Therefore, comments to Fay are moot. The examiner has tried to provide evidence throughout the

prosecution to show the appellant that the broadly written claims do not define over the prior art. In some rejections, the reference have been applied the simplicity of the claim language. Never were the claims amended to attempt to better define the apparatus over the prior art. The appellant simply argued through the prior art. Applicant was told that he could appeal the case after the second rejection. The appellant continued to prosecute the application which included filing an RCE.

B2. Appellant repeats the argument that Sgroi does not disclose MIDI control signals. The examiner does not agree and again points to figures 2-4.

B3. Appellant repeats the argument that Suzuki does not disclose MIDI. Again, examiner disagrees. See discussion above in regards to Suzuki.

B4. Appellant argues that multiplication is not fast adding. The examiner does not agree. Multiplication is fast adding. Multiplication is a faster way of getting the addition of numbers. For example:  $7 * 3 = 21$ ;  $7 + 7 + 7 = 21$ . One method is faster than the other, but the result is the addition of values to get another value. The appellant uses a fraction to try to disprove this teaching. Fractions can added or multiplied, wherein the end result is an addition of numbers. Signals have values as well. Whether the computer reads the numbers as 1s and 0s, the process of adding and multiplying, requires the addition of signals or values.

B5. Appellant argues that the rejection does not address claims 51-57. However, these claims are addressed in the rejection of claims 43-60. This rejection covers the subject matter.

C. Appellant argues the allowability of certain claims. No claims are allowed or believed to be allowable over the prior art.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Marlon T Fletcher/

Primary Examiner, Art Unit 2837

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